

### AMENDMENTS TO THE CLAIMS

Cancel claims 16 and 45 without prejudice, and amend the claims as shown below.

1. **(Canceled)**
2. **(Previously Presented)** The artificial tissue of claim 23 further comprising epithelial cells from the same species as the connective tissue cells and the endothelial cells.
3. (Original) The artificial tissue of claim 2 wherein the epithelial cells form a multilayered epithelium.
4. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the cells are mammalian cells.
5. **(Previously Presented)** The artificial tissue of claim 4 wherein the mammal is selected from the group consisting of primate, mouse, pig, cow, cat, goat, rabbit, rat, guinea pig, hamster, horse, and sheep.
6. **(Previously Presented)** The artificial tissue of claim 4 wherein the mammal is a human.
7. **(Canceled)**
8. **(Canceled)**
9. **(Currently Amended)** The artificial tissue of claims 2 or 23 wherein the support matrix comprises collagen~~Vitrogen~~®.
10. **(Previously Presented)** The artificial tissue of claim 44 wherein the microvascular endothelial cells comprise primary human adult lung microvascular cells.
11. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the connective tissue cells comprise primary human adult dermal fibroblasts.
12. (Original) The artificial tissue of claims 2 or 3 wherein the epithelial cells comprise primary human adult keratinocytes.
13. **(Currently Amended)** The artificial tissue of claim 23, wherein the support matrix comprises collagen~~Vitrogen~~®, the endothelial cells comprise primary human adult lung microvascular cells, and the connective tissue cells comprise primary human dermal fibroblasts; ~~wherein the artificial tissue comprises one or more microvessels produced therein.~~
14. **(Previously Presented)** The artificial tissue of claim 13, wherein the artificial tissue additionally comprises primary human keratinocytes.

15. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the artificial tissue produces one or more compounds selected from the group consisting of laminin, fibronectin, collagen I, collagen III, hyaluronic acid, VEGF 145, VEGF 121, bFGF, IL-8, Syndecan-1, CXCR-1, CXCR-2, a mannose-containing protein, an acetylglucosamine-containing protein, PECAM-1, alpha-SMA, MMP-2, a growth factor receptor, plasminogen activator, mSRA, and CD68.

16. **(Canceled)** ~~The artificial tissue of claim 45 wherein the one or more microvessels produce one or more mononuclear leukocytes.~~

17. **(Canceled)**

18. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the artificial tissue produces one or more periendothelial cells.

19. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the artificial tissue produces an extracellular matrix.

20. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the artificial tissue is self-maintained.

21. **(Canceled)**

22. **(Canceled)**

23. **(Amended)** An artificial tissue produced by a method comprising: mixing together a support matrix and connective tissue cells to form a support matrix-connective tissue mixture and forming a culture comprising two layers of support matrix-connective tissue mixture separated by a layer of endothelial cells, wherein said endothelial cells contact inner surfaces of the support matrix-connective tissue mixture layers, and wherein the cells are from the same species, said artificial tissue comprising one or more microvessels produced therein, wherein said one or more microvessels produce one or more mononuclear leukocytes.

24. **(Canceled)**

25. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the tissue is maintained in vitro.

26. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the tissue is a composition suitable for tissue grafting.

27-42. **(Canceled)**

43. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the support matrix comprises only natural components.

44. **(Previously Presented)** The artificial tissue of claims 2 or 23 wherein the endothelial cells comprise microvascular endothelial cells.

45. **(Canceled)** ~~The artificial tissue of claims 2 or 23 wherein the artificial tissue comprises one or more microvessels produced therein.~~